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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,368	08/15/2003	Richard Bajan	(49521) 59234	2534

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EXAMINER	
BAREFORD, KATHERINE A	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/642,368	BAJAN, RICHARD	
	Examiner	Art Unit	
	Katherine A. Bareford	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) *32 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Claims 2-3 and 34-46 are canceled

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment of Jan. 17, 2006 received in response to the Notice of Non-Compliant Amendment of Jan. 9, 2006 has been entered and considered. The arguments filed Nov. 23, 2005 have also been considered. The declaration of Richard Bajan filed Nov. 23,2 005 has also been considered.

After the amendment of Jan. 17, 2006, claims 2-3 and 34-46 are canceled, claims 32-33 are withdrawn and claims 1 and 4-31 are pending for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 5, 7, 9-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp, et al "Waterjet roughened surface analysis and bond strength" (hereinafter Knapp Article) in view of Raghavan et al (US 5512318) and EP 0 750 054 A1 (hereinafter '054) (as provided by applicant).

Knapp Article teaches a method of applying a metallurgical coating to a superalloy substrate. Abstract and page 22, 2nd column. The substrate can be aircraft engine parts, such as blades and vanes. Page 22, 1st column. The superalloy would

inherently have an underlying grain structure. A water jet is directed at the substrate to roughen the surface, thus modifying the surface morphology of the substrate in such a manner as to expose the underlying grain structure of the superalloy. Pages 22-23 and Tables 1 and 2. The water jet can have a pressure of up to 359 MPa (approx. 52,000 psi). Page 22, 2nd column. The sweep rate of the water jet can be 88.9 cm/min (34 inch/min) with a water jet pressure of 345 MPa (approx. 50,000 psi). Page 23, Table 1, examples WJ-1 and WJ-2. After water jet roughening, a metallurgical coating can be deposited on the modified surface of the substrate by thermal spraying, such as by plasma spraying. The paragraph bridging pages 23-24. The coating layer can have a thickness of 0.13 mm or 0.38 mm, for example. See Table 1, examples WJ-1, WJ-2, page 23 and the paragraph bridging pages 23-24.

Claim 9, 14: the coating can be an M Cr Al Y coating. See Table 1, examples WJ-1, WJ-2, page 23 and the paragraph bridging pages 23-24.

Knapp Article teaches all the features of these claims except (1) the standoff distance, (2) the HVOF spraying, (3) heat treating (claims 4, 5, 11), (4) water pressure (claim 7), (5) the grit blasting (Claims 10+) and (6) that the substrate has a roughness to allow deposition of a coating having a thickness in excess of about 0.5 inches (claims 1, 10).

Raghavan teaches a method of roughening surfaces such as aircraft engine parts prior to plasma spraying. Column 1, lines 5-20. The roughening is done by water jet. Column 1, lines 55-65. The water jet is positioned at a standoff distance of 0.25 to 2

inches from the substrate. Column 1, lines 60-68. The water jet pressure can be between 30,000 and 55,000 psi. column 5, lines 25-30. Raghavan teaches that the jet is traversed across the surface at a selected rate to uniformly roughen the surface, with degree of roughness based on, among other things, the pressure of the fluid, the standoff distance and the length of time the surface is in contact with the jet. Column 2, lines 1-15. Raghavan teaches to adjust the pressure, standoff and traverse rate until the desired surface roughness is achieved. Column 2, lines 10-25.

'054 teaches a method of applying a metallurgical coating to a superalloy substrate. Page 2, lines 35-45 and page 6, lines 40-50. The surperalloy would inherently have an underlying grain structure. A water jet of sufficient pressure is directed against the substrate while traversing the surface at an effective sweep rate to modify the surface morphology of the substrate. Page 5, lines 25-45. This water jet treatment will expose the underlying grain structure of the superalloy. Page 3, lines 35-45, page 5, lines 25-45 and page 6, lines 5-20 (note the greater erosion of the water jet will erode away the initial grit blasted surface). A metallurgical coating can be deposited on the modified surface of the substrate by high velocity oxygen fuel (HVOF) spray or plasma spraying. Page 6, lines 40-50 and page 8, lines 34-35. The coating would have a thickness~~, which meets all the features of these claims since the coating can be up to and in excess of 0.5 inches~~. Page 6, lines 40-50. The surface can be grit blasted to increase the surface roughness prior to treating the surface with a water jet. Page 4, lines 5-10 and page 6, lines 5-20. The coated substrate can be heat treated in a

vacuum. Page 6, lines 40-50. The metallurgical coating can be an M Cr Al Y coating, where M is Co or Ni. Page 6, lines 40-50. The pressure of the water jet can be 50 ksi (52000 psi). See page 5, lines 25-45.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to (1) modify Knapp Article to perform routine experimentation to optimize the standoff distance from the range given by Raghavan in order to provide an optimum degree of roughness, because Knapp Article teaches to water jet roughen the surface using a set pressure and traverse rate, and Ragahavan teaches that when using a water jet to roughen a surface to optimize the degree of roughening by adjusting the pressure, traverse rate and standoff distance, and that the standoff distance is desirably in the range 0.25 to 2 inches. (2) It would further have been obvious to modify Knapp Article in view of Raghavan to further provide the application of the coating by HVOF spraying as well as plasma spraying as suggested by '054 in order to provide a desirably coated surface, because Knapp Article in view of Raghavan teaches to apply the thermal spray coating by plasma spraying, and '054 teaches that when applying a thermal spray coating to a water jet roughened surface, it is desirable to use plasma spraying or HVOF spraying. (3) It would further have been obvious to modify Knapp Article in view of Raghavan and '054 to further provide the heat treating of the coated substrate in vacuum as suggested by '054 in order to provide a desirably coated and bonded surface, because '054 further teaches that when applying a thermal spray coating to a water jet roughened surface, it is desirable to heat treat in vacuum after

coating. (4) It would further have been obvious to modify Knapp Article in view of Raghavan and '054 to further provide the use of a water pressure of 55,000 psi as suggested by Raghavan in order to provide a desirably coated and bonded surface, because Raghavan further teaches that when optimizing the features of the spraying of the water jet, the pressure of the water jet can be up to 55,000 psi. (5) It would further have been obvious to modify Knapp Article in view of Raghavan and '054 to further provide the pretreatment grit blasting as suggested by '054 in order to provide a desirably coated and bonded surface, because '054 further teaches that when applying a thermal spray coating to a water jet roughened surface, it is desirable to pretreat the surface by grit blasting. (6) As to the requirement that the modified surface of the substrate has a microscopic roughness characteristic that promotes the formation of a bond between the substrate and the metallurgical coating that is sufficient in strength to support deposition of a coating have a thickness in excess of about 0.500 inches, it is the Examiner's position that the invention provided by the combination of Knapp Article in view of Raghavan and '054 would inherently provide such a microscopic roughness characteristic, since all of the features of roughening with the water jet (in part (a) of claim 1) are provided by the combination of the references. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). While the references do not teach providing a coating thickness greater

than 0.500 inches, the claim only requires that the surface be capable of supporting deposition of such a coating.

4. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp Article in view of Raghavan and '054 as applied to claims 1, 4, 5, 7, 9-11 and 14 above, and further in view of Arnold et al (US 5956845).

Knapp Article in view of Raghavan and '054 teaches all the features of these claims, including heat treatment, except that the heat treatment includes hot isostatic pressing.

However, Arnold teaches applying a thermally sprayed coating to a metal substrate, such as a turbine blade. Column 1, lines 10-30 and column 11, lines 30-68. A roughened substrate can be provided. Column 4, lines 40-50. A desirable coating is then applied to the workpiece substrate by HVOF spraying. Column 4, lines 40-65. After the coating is applied a desirable bond to the substrate is provided by subjecting the coated workpiece substrate to hot isostatic pressing. Column 5, lines 5-15.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knapp Article in view of Raghavan and '054 to perform hot isostatic pressing of the coated substrate as suggested by Arnold in order to provide a desirably coated and bonded surface, because Knapp Article in view of Raghavan and '054 teaches coating a substrate such as a turbine blade by thermal spraying and Arnold teaches that when coating a substrate such as a turbine blade by thermal spraying it is

desirable to heat treat the coated substrate by hot isostatic pressing in order to provide a desirably bonded coating.

5. Claims 8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp Article in view of Raghavan and '054 as applied to claims 1, 4, 5, 7, 9-11 and 14 above, and further in view of WO 02/40745 (hereinafter '745).

Knapp Article in view of Raghavan and '054 teaches all the features of these claims except depositing a platinum aluminide metallurgical coating onto the surface of the substrate.

However, '745 teaches applying a thermally sprayed coating to a gas turbine components. See page 1, lines 1-5 and page 9, lines 15-25. A bond coating can be applied to the substrate by thermal spraying. Page 6, lines 10-25, page 9, lines 15-25 and page 10, lines 5-10. The bond coating can be platinum aluminide or a M Cr Al Y. Page 6, lines 10-20, page 9, lines 15-25 and page 10, lines 5-10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knapp Article in view of Raghavan and '054 to use a platinum aluminde bond coating as suggested by '745 in order to provide a desirable coating, because Knapp Article in view of Raghavan and '054 teaches that a thermal spray coating can be applied and that the thermal spray coating can be a M Cr Al Y type coating applied by thermal spraying and '745 teaches that when applying a bond coating by thermal spraying it is desirable to use M Cr Al Y or platinum aluminide.

6. Claims 15, 16, 18, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp Article in view of Raghavan and '054 as applied to claims 1, 4, 5, 7, 9-11 and 14 above, and further in view of Darolia (US 6607611).

Knapp Article in view of Raghavan and '054 teaches all the features of these claims except roughening the surface of the applied coating (the M Cr Al Y bond coating) and then applying a second coating (a ceramic coating).

However, Darolia teaches applying a thermally sprayed bond coating to a metal substrate, and then applying a thermally sprayed, such as by plasma spraying, ceramic coating. Column 1, line 60 through column 2, line 25, column 5, line 55 through column 6, line 5 and column 15-30. The bond coating can be a M Cr Al X (where X can be yttrium) coating. Column 5, lines 55-65. The bond coating is roughened prior to applying the ceramic coating. Column 6, lines 10-20. Then a ceramic coating, which can be zirconia stabilized with 4-8 wt% yttria, is applied by plasma thermal spraying. Column 6, lines 10-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knapp Article in view of Raghavan and '054 to roughen the applied bond coat and then applying the ceramic coating as suggested by Darolia in order to provide a desirably bonded coating system, given that Knapp Article in view of Raghavan and '054 teaches applying a bond coat material and Darolia teaches that after applying a bond coat material, it is desirable to further apply a ceramic top coat, and to

also roughen the bond coat before applying the top coat. It would further have been obvious to perform this roughening by the water jet method of Knapp Article in view of Raghavan and '054, because Darolia teaches that the bond coat can be roughened by a method such as grit blasting, and Knapp Article in view of Raghavan and '054 provides benefits of using a water jet rather than grit blasting when roughening a surface prior to coating.

7. Claim 17, 21, 23-27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp Article in view of Raghavan and '054 and Darolia as applied to claims 15, 16, 18, 19 and 22 above, and further in view of Arnold et al (US 5956845).

Knapp Article in view of Raghavan and '054 and Darolia teaches all the features of these claims, including heat treatment, except (1) that a three layer coating system is used, and (2) that the heat treatment includes hot isostatic pressing and is prior to the second layer application (claim 23, 30, 31).

However, Arnold teaches applying a thermally sprayed coating to a metal substrate, such as a turbine blade. Column 1, lines 10-30 and column 11, lines 30-68. A roughened substrate can be provided. Column 4, lines 40-50. A desirable coating is then applied to the workpiece substrate by HVOF spraying. Column 4, lines 40-65. After the coating is applied a desirable bond to the substrate is provided by subjecting the coated workpiece substrate to hot isostatic pressing. Column 5, lines 5-15. The coating of Arnold provides for a method of repairing a substrate such as a turbine blade

by coating with a metal alloy of the same material as the substrate so as to build the substrate back to its original dimensions. Column 11, lines 15-68.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knapp Article in view of Raghavan and '054 and Darolia to provide a repair of a substrate, by coating an initial layer of material the same as the substrate and including performing hot isostatic pressing of the initially coated substrate, before applying the bond coating and ceramic top coating as suggested by Arnold in order to provide a desirably repaired, coated and bonded surface, because Knapp Article in view of Raghavan and '054 and Darolia teaches coating a substrate such as a turbine blade by thermal spraying with a bond coat and ceramic top coat and Arnold teaches that it is desirable to repair a turbine blade by coating an initial layer of material the same as the substrate and including performing hot isostatic pressing of the initially coated substrate. This would provide the application of a first metal layer with hot isostatic pressing to repair the substrate, followed by a second metal layer of bond coat, followed by a third ceramic layer in order to protect the repaired substrate.

8. Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp Article in view of Raghavan, '054, Darolia and Arnold as applied to claims 17, 21, 23-27 and 29-31 above, and further in view of WO 02/40745 (hereinafter '745).

Knapp Article in view of Raghavan, '054, Darolia and Arnold teaches all the features of this claim except depositing a platinum aluminide metallurgical coating onto the surface of the substrate.

However, '745 teaches applying a thermally sprayed coating to a gas turbine components. See page 1, lines 1-5 and page 9, lines 15-25. A bond coating can be applied to the substrate by thermal spraying. Page 6, lines 10-25, page 9, lines 15-25 and page 10, lines 5-10. The bond coating can be platinum aluminide or a M Cr Al Y. Page 6, lines 10-20, page 9, lines 15-25 and page 10, lines 5-10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Knapp Article in view of Raghavan, '054, Darolia and Arnold to use a platinum aluminde bond coating as suggested by '745 in order to provide a desirable bond coating, because Knapp Article in view of Raghavan, '054, Darolia and Arnold teaches that a bond coating can be applied and that the bond coating can be a M Cr Al Y type coating applied by thermal spraying and '745 teaches that when applying a bond coating by thermal spraying it is desirable to use M Cr Al Y or platinum aluminide.

9. The Examiner notes that Dietrich et al (US 2004/0043261) is the national state application of WO 02/40745 cited above.

10. Herzbach et al (US 2002/0007700) teaches that thermal spray coatings, including HVOF coatings, can be applied to thicknesses up to 20 mm, for example. See paragraphs [0042] - [0047].

Response to Arguments

11. Applicant's arguments filed Jan. 17, 2006 and Nov. 23, 2005 have been fully considered but they are not persuasive.

As to the rejection of claims 1, 4, 5, 7, 9-11 and 14 (claim 2 was canceled) using Knapp article in view of Raghavan and '054, the Examiner has reviewed applicant's arguments and the Declaration of Nov. 23, 2005 by R. Bajan, however, the rejection is maintained. While each of the references alone does not teach the combination of features required by the claims as to the water jet roughening requirements, it is the combination of these references that provides that suggestion, as discussed in the motivation statement provided as to these claims in the rejection above. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As to the argument that the references to do not provide the surface morphology to promote the bond strength sufficient to support the deposition of the HVOF coating in a thickness in excess of 0.500 inches, as noted in the rejection above, the claim does not require actually applying a

coating of greater than 0.500 inches, merely that the surface as modified has a microscopic roughness that supports deposition of such a coating. Since all of the surface modification features of claim 1 as required in part a) are provided by the combination of references, the resulting modified surface is capable of supporting a coating applied in excess of 0.500 inches. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Mr. Bajan's declaration discusses that the surface of the present application does not appear to be capable of supporting the thick coating, but as discussed in the rejection, the features as claimed are suggested by the combination of the references.

As to claims 6 and 12, the Examiner has reviewed applicant's arguments, however, the rejection is maintained. The rejection of claims 1, etc. using Knapp Article, Raghavan and '054 is maintained for the reasons discussed as to claim 1, etc. above. As to Arnold, while it does not disclose a coating thickness of greater than 0.500 inches, the features as to being able to support a coating in excess of 0.500 inches are provided by Knapp article, Raghavan and '054 as discussed above.

As to claims 8 and 13, the Examiner has reviewed applicant's arguments, however, the rejection is maintained. The rejection of claims 1, etc. using Knapp Article, Raghavan and '054 is maintained for the reasons discussed as to claim 1, etc. above. As to '~~075~~ 745 (Dietrich), while it does not disclose a coating thickness of greater than 0.500

inches, the features as to being able to support a coating in excess of 0.500 inches are provided by Knapp article, Raghavan and '054 as discussed above.

As to claims 15, 16, 18, 19 and 22, the Examiner has reviewed applicant's arguments, however, the rejection is maintained. The rejection of claims 1, etc. using Knapp Article, Raghavan and '054 is maintained for the reasons discussed as to claim 1, etc. above. As to Darolia, while it does not disclose a coating thickness of greater than 0.500 inches, the features as to being able to support a coating in excess of 0.500 inches are provided by Knapp article, Raghavan and '054 as discussed above.

As to claims 17, 21, 23-27 and 29-31, the Examiner has reviewed applicant's arguments, however, the rejection is maintained. The rejection of claims 1, etc. using Knapp Article, Raghavan and '054 is maintained for the reasons discussed as to claim 1, etc. above. As to Arnold, while it does not disclose a coating thickness of greater than 0.500 inches, the features as to being able to support a coating in excess of 0.500 inches are provided by Knapp article, Raghavan and '054 as discussed above.

As to claims 20 and 28, the Examiner has reviewed applicant's arguments, however, the rejection is maintained. The rejection of claims 1, etc. using Knapp Article, Raghavan and '054 is maintained for the reasons discussed as to claim 1, etc. above. As to '745 (Dietrich), while it does not disclose a coating thickness of greater than 0.500 inches, the features as to being able to support a coating in excess of 0.500 inches are provided by Knapp article, Raghavan and '054 as discussed above.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KATHERINE BAREFORD
PRIMARY EXAMINER